



Baxter Docket No. EIP-5568  
W&W Docket No. 1417G P 390

PATENT 30

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): BUI, et al. )  
Serial No. 09/248,057 ) Group Art No.: 3763 #14  
Filed: February 10, 1999 ) Examiner: Jeremy Thissell  
Title: MEDICAL APPARATUS USING )  
SELECTIVE GRAPHICAL INTERFACE )

### APPELLANT'S APPEAL BRIEF

BOX AF  
Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Applicant submits this Appeal Brief, in triplicate, in furtherance of the Notice of Appeal, mailed in accordance with 37 C.F.R. §1.8(a) on December 20, 2000, and received by the United States Patent and Trademark Office on December 28, 2000. Under 37 C.F.R. § 1.191 a brief shall be submitted within two (2) months from the date of the notice of appeal. Applicant submits this Appeal Brief within the third month after the two- month time period. Accordingly, Applicant submits herewith a Petition for a three-month extension of time along with the appropriate fee.

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### **I. REAL PARTY IN INTEREST**

All right, title and interest to this patent application has been transferred to Baxter International Inc. (hereinafter referred to as "Applicant").

### **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals and interferences which will be impacted by a decision on this appeal.

### **III. STATUS OF CLAIMS**

Thirty-six claims (1-36) were originally filed in the patent application. One additional claim (37) was filed on July 24, 2000 in a Response To April 25, 2000 Office Action. The status of the claims is as follows:

- A. **Pending:** Claims 1, 3, 8-13, 18-21, 24 and 26-37.
- B. **Withdrawn from consideration:**
  - By Applicant: None.
  - By Examiner: 2, 4-7, 14-17, 22, 23 and 25.
- C. **Canceled:** None.
- D. **Allowed:** None.
- E. **Rejected:** Claims 1, 3, 8-13, 18-21, 24 and 26-37.
- F. **Objected to:** None.
- G. **On Appeal:** Claims 1, 3, 8-13, 18-21, 24 and 26-37.

A copy of the claims involved in this appeal, in the form last considered by the Examiner, is included in the attached Appendix 1.

#### IV. STATUS OF AMENDMENTS

All amendments have been entered in this patent application. At present, claims 1, 3, 8-13, 18-21, 24 and 26-37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,885,245 issued to Lynch et al. ("Lynch").

#### V. SUMMARY OF THE INVENTION

The present invention provides a programmable medical device **12** and a controller **20** for controlling the programmable medical device **12**. The programmable medical device **12** is a device that may be used to administer medical treatment to a patient, monitor a patient's condition, or diagnose a patient's condition (such as infusion pumps, respirators, vital sign monitors, blood analyzers and the like.) (See Application p. 8, lines 8-17.) The programmable medical device **12** is typically connected to the patient, while the controller **20**

may be either part of the medical device **12**, or it may be disposed in a remote location from the location of the programmable medical device **12**. (See p. 8, lines 22-31.)

Operation of the programmable medical device **12** is controlled by a computer program comprising routines that are executed by a controller **100**. (See p. 11, lines 3-7.) A separate program or subprogram controls the selectable graphical interface, i.e. which input keys to display or activate on the medical device **12** is also stored in memory. (See p. 11, lines 7-10.) Specifically, a selectable graphical interface program first determines which type of medical device **12** is being used, and then it correlates the controllers display with an algorithm for the medical device **12**. (See p. 16, lines 11-16.) Then, the selectable graphical interface program determines the status of the particular medical device **12** and through the pump algorithm the controller **100** determines which keys are required for appropriate input from the user depending on the status or programming step of the particular medical device **12**. (See p. 11, lines 19-25; p. 16, lines 16-19.) After determining the medical device **12** status, the selectable graphical interface program retrieves the display of the appropriate keys for the status of the particular medical device **12**, and causes the appropriate active keys to be displayed or highlighted. (See p. 11, lines 25-28; p. 16, lines 21-29.) During each mode of operation of the programmable medical device **12** by the remote controller **20**, the selectable graphical interface or key display program interacts with the medical device's operational program to display, highlight or otherwise distinguished from the remaining keys on the input device only those keys which are valid or needed for operation during the particular mode based on the determined status. (See p. 11, lines 11-15.) Keys which cannot be "pressed" or activated at each programming or operational step are not displayed or otherwise are indicated to be inactive on the controller's display. (See p. 11, lines 25-31.) In the case of a medical device with a separate input keypad, the selectable graphical interface program sends signals to the individual keys inactivating all

keys except for those required for operation based on the particular device status. (See p. 11, lines 33-37.) For example, when the programmable medical device **12** is powered off, except for the “On/Off” key, either no keys are displayed or the keys are displayed in shadow with no backlighting. (See p. 9, lines 25-28.) Various means of activating/deactivating the keys are disclosed by the Applicant: non-active keys may be shadowed or made less visible than active keys; non-active keys may be made invisible, but the layout of the keys remains the same as for the input device; and, the active keys may be rearranged in a more prominent order. (See p. 20, lines 29-36.) By limiting the available choices of input keys to the user the controller is not only easier to use, but the likelihood of potential mistakes, such as hitting incorrect key strokes and having to back up and re-enter keys for a particular step is also reduced. (See p. 7, lines 1-6.)

#### A. Claim 1

The first independent claim, Claim 1, recites a programmable medical device. The device comprises a display device and an input device for allowing a user to input commands to control the programmable medical device. The input device comprises a *routine that is responsive to the status of the programmable medical device* for generating a display of a plurality of entry keys and for *selectively displaying on the display device only those entry keys which are required by the status* for inputting commands to the programmable medical device. Additionally, the input device includes a selector for allowing a user to activate the displayed keys to allow the user to input commands to control operation of the programmable medical device.

#### B. Claim 11

Similarly, the second independent claim, Claim 11, recites a programmable medical device. The device comprises a display device and an input device for allowing a user to input commands to control the programmable medical device. The input device comprises a plurality of entry keys disposed in a spatial configuration, and a *routine that is responsive to a status of the programmable medical device for selectively enabling only those entry keys which are required by the status* for inputting commands to the programmable medical device.

**C. Claim 21**

The third independent claim, Claim 21, recites a controller for controlling a programmable medical device. The controller comprises a display device, a routine and a selector. The *routine is responsive to a status of the programmable medical device* in order to: (a) generate a display of a plurality of entry keys disposed in a spatial configuration, and (2) *selectively displaying on the display device only those entry keys which are required by the status* for inputting commands to the programmable medical device. The selector allows the user to activate the displayed keys for inputting commands to control operation of the programmable medical device.

**D. Claim 30**

The fourth independent claim, Claim 30, recites a medical apparatus comprising a programmable medical device disposed at a first location. The programmable medical device has an input device with a plurality of entry keys disposed in a spatial configuration for allowing a user to input commands to control the medical device, a remote controller being positionable at a second location remote from the first location but in communication therewith for monitoring and controlling the programmable medical device. The remote controller comprises a display device, a *routine that is responsive to a status of the programmable medical device* for generating a display of a plurality of virtual entry keys disposed in a spatial configuration and for *selectively displaying on the display device only those virtual entry keys which are required by the status* for inputting commands to the programmable medical device, and a selector for allowing a user to activate the displayed virtual entry keys to allow the user to input commands to control operation of the programmable medical device.

**E. Claim 35**

The fifth independent claim, Claim 35, recites a method for controlling a programmable medical device. The programmable medical device has a display device, and an input device for allowing a user to input commands to control the programmable medical device. The input device comprises a *routine responsive to a status of the programmable medical device* for generating a display of a plurality of entry keys disposed in a spatial configuration and for

*selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device; and a selector for allowing a user to activate the displayed keys to allow the user to input commands to control operation of the programmable medical device. The method of controlling the programmable medical device comprises the steps of determining the status of the programmable medical treatment device, selecting those entry keys which are required by the status for inputting commands to the programmable medical device, and displaying only those entry keys which are required by the status for inputting commands to the programmable medical device.*

#### F. Claim 36

The sixth independent claim, Claim 36, also recites a method for controlling a programmable medical device. The programmable medical device has a display device and an input device for allowing a user to input commands to control the programmable medical device. The input device comprises a plurality of entry keys disposed in a spatial configuration, and a routine responsive to a status of the programmable medical device for selectively enabling only those entry keys which are required by the status for inputting commands to the programmable medical device. The method for controlling the programmable medical device comprises *determining the status of the programmable medical device, selecting those entry keys which are required by the status for inputting commands to the programmable medical device, and enabling only those entry key which are required by the status for inputting commands to the programmable medical device.*

#### VI. ISSUES

The following issue is presented for review:

1. Whether claims 1, 3, 8-13, 18-21, 24 and 26-37 are unpatentable under 35 U.S.C. §103(a) over Lynch?

## **VII. GROUPING OF CLAIMS**

**Group I:** Claims 1, 3, 8-13, 18-21, 24 and 26-37. Applicant submits that the claims of Group I do not stand or fall together. Specifically, Claims 1, 11, 21, 30, 35 and 36 are separately patentable.

## **VIII. ARGUMENTS**

### **(A) Rejections under 35 U.S.C. §112, first paragraph**

There are no claims presented in this appeal which stand rejected under 35 U.S.C. §112, first paragraph.

### **(B) Rejections under 35 U.S.C. §112, second paragraph**

There are no claims presented in this appeal which stand rejected under 35 U.S.C. §112, second paragraph.

### **(C) Rejections under 35 U.S.C. §102**

There are no claims presented in this appeal which stand rejected under 35 U.S.C. §102.

### **(D) Rejections under 35 U.S.C. §103**

#### **1. Rejection of Claims 1, 3, 8-13, 18-21, 24 and 26-37 over Lynch**

Claims 1, 3, 8-13, 18-21, 24 and 26-37 stand rejected under 35 U.S.C. §103 as being obvious over Lynch. (10/11/00 Office Action, ¶2.)

The Examiner has asserted that the device of Lynch is a computerized processing and display unit, possibly having a touch screen display. Further, the Examiner has taken the position that it has been universally known that computer systems, such as Microsoft Windows®, utilize a system of displaying inactive keys shown in “shadow.” The Examiner included captured windows from his own computer allegedly showing a “Disabled” section in “shadow.” In paragraph 3 of the 10/11/00 Office Action, the Examiner concluded that one of ordinary skill in the art of computer screen displays or even in using personal computers would recognize that greyed out “disabled” keys would be an obvious modification to Lynch.

The Applicant respectfully submits that the Examiner erred in this rejection. The Examiner has failed to present a *prima facie* case of obviousness since the combination of Lynch with a system such as the captured Windows® screen does not disclose, suggest or teach each and every element of the pending claims. See In re Geiger, 815 F.2d 686, 688 (Fed. Cir. 1988). Specifically, the combination of Lynch and the captured Windows® screen does not disclose, suggest or teach the use of a routine, that (a) obtains the status of the medical device, and (b) responsive to the status of a device then (c) generates a display that selectively displays or enables keys required by the status of the device. Rather, the Examiner has ineffectively and improperly relied on hindsight reconstruction in an attempt to render such a recitation obvious. In re Fritch, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Thus, since the Examiner failed to present a *prima facie* case of obviousness, the rejections should be reversed and Claims 1, 3, 8-13, 18-21, 24 and 26-37 should be allowed as submitted.

With respect to the present application, as opposed to obtaining the status of a medical device and then selectively displaying/enabling certain display keys based on the status, Lynch teaches no more than using an identification routine to determine and display a static virtual keypad on a remote apparatus for remote monitoring and controlling of a medical treatment device. As explained in the “Background of the Invention” section of the present application, Applicant is the assignee of both the present application and Lynch, and as such is fully apprized of the breadth of teachings in Lynch. (Pg. 2, lines 20-36.) In Lynch, a medical device is disposed in a first location and the virtual remote monitor and/or controller is disposed at a second location. (Lynch, col. 1, lines 31-38.) The remote monitor/controller includes a “visual display of a virtual input device substantially corresponding to the input device of the programmable medical device.” (Lynch, col. 1, lines 43-45.) Unlike the dynamic display of the present application in which the operation and/or display changes based on the status of the medical device, the remote visual display of Lynch is not altered based on changes in the status

of the medical device, primarily because Lynch never suggests, discloses, teaches, or even has the capability to request and obtain the status of the medical device.

Lynch performs its virtual display function by having the remote monitor/controller 20 being capable of interfacing with different types of infusion pumps. (Lynch, col. 7, lines 51-52.) As such, an important feature of Lynch includes determining the specific type of medical device to which the remote monitor/controller 20 is operatively coupled. (Lynch, col. 7, lines 54-59.) Accordingly, Lynch discloses performing an identification routine 400 whereby the remote monitor/controller 20 transmits an identification (ID) request to the medical device 12 via a communication link 38. (Lynch, col. 7, lines 54-59.) Once an ID is received from the medical device the remote monitor/controller compares the ID with ID configurations stored in its memory. (Lynch, col. 8, lines 11-18.) Based on the obtained medical device ID, a virtual display or keypad of the medical device is retrieved from the memory of the remote monitor/controller. (Lynch, col. 9, lines 34-38.) As an example, when the input device for the medical apparatus is a keypad of a specific medical device, the virtual input device on the remote controller of Lynch is a “visual display of a plurality of keys having substantially the same configuration as the keypad” of that specific medical device based on the display being recalled from memory. (Lynch, col. 1, lines 50-53.) The sequence of operation of the above-identified disclosure is specifically disclosed in Lynch, at column 9, lines 12-38:

Figure 10 illustrates a flowchart 450 of the basic operation of the remote monitor/controller 20. Referring to FIG. 10, at step 452, if the user selected the command mode described above, the routine branches to step 454 where a display of the keypad 90 of the infusion pump 12 is shown on the display device 78. The display shown at step 454 comprises a plurality of virtual entry keys having a spatial configuration substantially the same as the entry keys of the keypad 90 of the particular infusion pump type which is connected to the remote monitor/controller 20. An example of such a visual display is shown in FIG. 11A.

It should be noted that the virtual keypad shown in FIG. 11A is the same as the actual keypad 90 of the pump 12, which is shown in FIG. 3 (except that the on/off key of the pump 12 is replaced with a reset key in the virtual key display). Where a different type of pump having a different keypad is attached to the remote monitor/controller 20, that particular keypad is displayed on the display device 78. An example of a different virtual keypad is shown in FIG. 11B. Various virtual keypad configurations may be stored in the memory of the remote

monitor/controller 20, each virtual keypad configuration having a pump type code associated therewith. Since the remote monitor/controller 20 initially determined the type of pump to which it was attached (via the routine of FIG. 9), it can retrieve from memory and display the corresponding virtual keypad for that type of pump. (Emphasis added.)

Once the appropriate remote monitor/controller has been established, Lynch further discloses four different modes of remote operation: (1) a command mode in which a health care provider at the remote monitor/controller may transmit command signals to the medical device through the virtual remote monitor/controller to remotely control the medical device; (2) a monitoring mode in which the medical device transmits the contents of its data to the remote monitor/controller for monitoring; (3) a download data mode in which data is transferred from the medical device to the remote monitor/controller; and, (4) a view data mode in which the data from the medical device may be displayed on the remote monitor/controller. (Lynch, col. 9, lines 1-11.)

Because the relevant scope of Lynch is limited to obtaining an ID of a pump type in order to recall the appropriate display from memory, and then being able to remotely control the medical device and view the output data of the medical device, it is clear that Lynch never considers the capability of requesting, obtaining and utilizing pump status information to not only generate a display of entry keys, but further to selectively display/enable those keys based on the retrieved pump status information. Moreover, Applicants acknowledge that Lynch admittedly fulfilled a need for a remote monitor/controller for medical devices. It is evident, however, that as medical devices become more complex, controlling such devices becomes more complicated, whether at the hospital or remotely. (See Application, pg. 4, lines 1-3.) Even skilled caregivers may find programming such medical devices difficult, and may make mistakes which require reprogramming or backing up of steps. (See Application, pg. 4, lines 3-5.) Thus, the invention of Applicant's claims provides a controller for a medical device that is programmed into the status of operation of the medical device to provide a controller that is simplified and minimizes the potential for mistakes. (See Application, pg. 4, lines 6-10.)

With these needs in mind, the following pending claims are contrasted from Lynch and include recitation that was neither considered by Lynch, nor would it have been an obvious modification of Lynch for one of ordinary skill in the art in developing and programming medical devices.

- **Claim 1** recites a programmable medical device having an input device comprising a *routine, responsive to a status of the programmable medical device*, for generating a display of a plurality of entry keys disposed in a spatial configuration and for *selectively displaying* on the display device only those entry keys which are *required by the status* for inputting commands to the programmable medical device.

- In pertinent recitation, independent **Claim 11** is similar to Claim 1, except that Claim 11 recites the input device having a plurality of entry *keys* disposed in a spatial configuration, and the *routine, which is responsive to the status of the programmable medical device, selectively enables* only those entry keys which are *required by the status* for inputting commands to the programmable medical device.

Independent Claim 11 is directed to an input device having a plurality of entry keys, Claim 18, which depends from Claim 11, further recites that the input device comprises a *keypad* and the *routine comprises instructions for physically disabling those entry keys which are not required by the current programmable medical device status*.

- Likewise, in pertinent recitation, independent **Claim 21** is similar to Claim 1, except that Claim 21 recites the controller having a *routine which is responsive to the status of the programmable medical device*. Then, based on the status of the programmable medical device the routine generates a display of a plurality of entry keys disposed in a spatial configuration and *selectively displays* on the display device only those entry keys which are *required by the status* for inputting commands to the programmable medical device.

- Unlike prior claims, Independent **Claim 30** recites a medical device having a remote controller for monitoring and controlling the programmable medical device. The remote controller is positionable at a second location remote from the first location, but it remains in communication with the medical device at the first location. Like Claim 1, however, the remote

controller of Claim 30 comprises a *routine which is responsive to the status of the programmable medical device to generate a display and selectively enable* only those virtual entry keys which are *required by the status* for inputting commands to the programmable medical device.

- Independent **Claim 35** is a method claim. The method recites the use of a medical device comprising an input device that has a routine which is responsive to a status of the programmable medical device for generating a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device. The method for controlling such a medical device comprising the steps of: *determining the status of the programmable medical device; selecting those entry keys which are required by the status* for inputting commands to the programmable medical device; and *displaying only those entry keys which are required by the status* for inputting commands to the programmable medical device.

- Independent method **Claim 36** is similar to method Claim 35, however, Claim 36 recites the use of an input device having a plurality of entry keys disposed in a spatial configuration, and then after *determining the status of the programmable medical device, selecting those entry keys which are required by the status* for inputting commands to the programmable medical device, and *enabling only those entry key which are required by the status* for inputting commands to the programmable medical device.

Thus, it is clear that the teachings of Lynch and the requirements of the above independent claims are different. Moreover, in Paper No. 7, the Examiner admitted that “Lynch teaches the device substantially as claimed except from selectively displaying the keys according to the status of the device.” (Office Action dated 4/25/01, pg. 4).

Nevertheless, the Examiner takes the position that since the device of Lynch is a computerized processing and display unit, it would have been obvious to use a well-known system, such as Windows®, to display keys in “shadow.” (Office Action dated 10/11/00, pg. 2). Notwithstanding the fact that the combination of Windows® with Lynch would not result in all of the elements of Applicant’s claims, the Examiner has improperly using hindsight gained through

Applicant's disclosure to formulate this rejection. See In re Fritch, 972 F.2d 1260, 1266 (Fed. Cir. 1992).

Applicant asserts that the Examiner has failed to present a *prima facie* case of obviousness. As such, the §103 rejection is improper. It is the burden of the Patent and Trademark Office to establish a *prima facie* case of obviousness when rejecting claims under 35 U.S.C. §103. In re Reuter, 210 USPQ 249 (CCPA 1981). To establish a *prima facie* case of obviousness, three basic criteria must be met: first, there must be some suggestion, incentive or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art references must teach or suggest all the claim limitations. See In re Geiger, 815 F.2d 686, 688 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of a reference to produce the claimed invention, absent some teaching or suggestion supporting the combination of the references. ACS v. Montefiore Hospital Systems, Inc., 221 USPQ 929, 933 (Fed. Cir. 1984). Furthermore, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the Applicant's disclosure. In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991). Applicant respectfully submits there is no teaching or suggestion to modify the disclosure of Lynch, or to combine Lynch with the cited Windows® information that would render the claims obvious. Further, Applicant respectfully submits that even if the references were combinable as proposed, the resultant modification or combination would still fall short of yielding the claimed invention (i.e., it would fail to satisfy each claim limitation).

As to the first criteria, because of the differences between the Lynch reference and the Windows® application, the only suggestion or motivation to combine the Lynch reference with the Windows® application is found in Applicant's disclosure. This is improper. "Unless, the prior art *itself* suggests the particular combination, it does not show that the actual invention was obvious or anticipated." In re Mahurkar Patent Litigation, 831 F. Supp. 1354, 1374 (N.D. Ill. 1993). Further, obviousness must be analyzed "from the perspective of one

having ordinary skill in the art to which the subject matter pertains, having only the prior art references before him and unaided by the teachings" of the application at issue. Twin Disc, Inc. v. United States, 231 USPQ 417, 425 (Cl. Ct. 1986). "[I]t is not permissible to first ascertain factually what the inventors did and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and then utilized to reconstruct the claimed invention." Id. Here, other than through Applicant's disclosure, there is no teaching or suggestion which would lead one of ordinary skill in the art to modify the disclosure of Lynch, or to combine Lynch with the cited Windows® application. The Windows® application involves the use of drop down menus for specific software applications where the menus vary depending on the screen. Lynch, however, merely involves interacting with a medical device to obtain its identification such that a single display which is stored in the memory of Lynch can be matched and retrieved. Further, the single retrieved screen display of Lynch is static. Unlike with Windows® applications, the display of Lynch does not change, but rather stays static throughout its use (i.e., Lynch merely provides a remote "virtual keypad."). This is because concerning the display, there is no further interaction with the remote controller/monitor of Lynch and the medical device to which the remote controller/monitor of Lynch is linked. Since there is no continued interaction with the medical device concerning the remote display in Lynch, the display of Lynch cannot involve varying displays and screens, and the use of a Windows® type application would be useless. Accordingly, without the aid of being taught by Applicant's disclosure to request and obtain the status of the medical device, and then to selectively display/enable keys based on the information learned through the obtained status operations, there would be no suggestion or motivation to combine ideas found in the Windows® application with Lynch. As such, Applicant respectfully submits that with regard to the first prong, the Examiner has failed to present a *prima facie* case of obviousness, and therefore all of the pending claims are patentable as submitted.

As to the third criteria, even if the teachings of Lynch were combined with the Windows® application, the combination would not result in the claimed invention. Unlike the Examiner's cited references, Applicant's claimed invention is predicated upon a routine which

provides for determining the status of the particular medical device and determining which keys are required for appropriate input from the user depending on the status or programming step of the particular medical device. Specifically, after determining the medical device status, the selectable graphical interface program retrieves the display of the appropriate keys for the status of the particular medical device, and causes the appropriate active keys to be displayed, highlighted or enabled in direct response to the status of the device. Specifically:

- Independent Claim 1 recites “a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device;”
- Independent Claim 11 recites “a routine, responsive to a status of the programmable medical device, for selectively enabling only those entry keys which are required by the status for inputting commands to the programmable medical device;”
- Independent Claim 21 recites “a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device;”
- Independent Claim 30 recites a remote controller comprising “a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of virtual entry keys disposed in a spatial configuration and for selectively displaying on the display device only those virtual entry keys which are required by the status for inputting commands to the programmable medical device;”
- Independent Claim 35 recites a method comprising the steps of: (a) determining the status of the programmable medical treatment device; (b) selecting those entry keys which are required by the status for inputting commands to the programmable medical device; and (c) displaying only those entry keys which are required by the status for inputting commands to the programmable medical device; and,

• Independent Claim 36 recites a method comprising the steps of: (a) determining the status of the programmable medical device; (b) selecting those entry keys which are required by the status for inputting commands to the programmable medical device; and (c) enabling only those entry key which are required by the status for inputting commands to the programmable medical device.

Neither Lynch alone nor Lynch in combination with the Windows® reference discloses the above recitations or renders the above recitations obvious. With regard to Lynch, the Examiner has acknowledged that Lynch does not disclose the above features. Applicants further submit that Lynch does not only not disclose such features, but as explained above, actually teaches away from such limitations since Lynch operates in a static realm of merely retrieving a display from its memory, and does not deal with modifications based on the *status of the controlling medical device*. Merely combining the Windows® reference with Lynch does nothing to suggest or render obvious the recited routines concerning obtaining and utilizing information gained based on the status of the medical device. Accordingly, Applicants submit that even if the references were properly combinable there is no teaching or suggestion leading to all of the claimed recitations of independent Claims 1, 11, 21, 30, 35 and 36. Specifically, it would not lead to a display that is generated based on a response of the status of the medical device, nor would it lead to selectively displaying or enabling keys required by the instant status of the medical device. As such, Applicant respectfully submits that with regard to the third prong, the Examiner has failed to present a *prima facie* case of obviousness, and therefore all of the pending claims are patentable as submitted.

Additionally, Claims 3 and 8-10 depend from independent Claim 1; Claims 12, 13 and 18-20 depend from independent Claim 11; Claims 24 and 26-29 depend from independent Claim 21; Claims 31-34 depend from independent Claim 30; and, Claim 37 depends from independent Claim 36. If an independent claim is non-obvious under §103, then any claim depending therefrom is also non-obvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). As such, all pending dependent claims (Claims 3, 8-10, 12, 13, 18-20, 24, 26-29, 31-34

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and 37) are non-obvious in view of Lynch and the Windows® reference for the above reasons as well.

In summary, the Applicant respectfully submits the Examiner has failed to present a *prima facie* case of obviousness. First, the references are not properly combinable. Second, even if the references were properly combinable, they do not teach, suggest, or render obvious all of the limitations of the independent claims. As such, Applicant submits all dependent claims are not obvious for the above reasons as well.

#### (E) Other Rejections

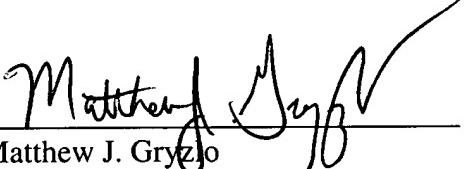
There are no claims present which stand rejected for any other reason.

### IX. CONCLUSION

For the foregoing reasons, Applicant respectfully submits that the Examiner's rejection of claims 1, 3, 8-13, 18-21, 24 and 26-37 is erroneous. Therefore, Applicant respectfully requests that the Board reverse the Examiner's rejections, and find the appealed claims allowable in view of the cited references.

Respectfully submitted,

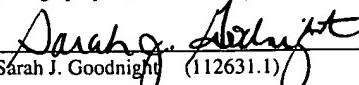
Date: May 18, 2001

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#### CERTIFICATE OF MAILING (37 C.F.R. § 1.8a)

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Sarah J. Goodnight (112631.1)

**X. APPENDIX**

**CLAIMS**

We claim:

1. A programmable medical device, comprising:

a display device;

an input device for allowing a user to input commands to control the programmable medical device, the input device comprising:

5 a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device; and

10 a selector for allowing a user to activate the displayed keys to allow the user to input commands to control operation of the programmable medical device.

3. The programmable medical device of claim 1 wherein said programmable medical device comprises an infusion pump.

15 8. The programmable medical device of claim 1 wherein the display device comprises an apparatus responsive to touch inputs on the display.

9. The programmable medical device of claim 8 wherein the display device comprises a touch sensitive screen.

20 10. The programmable medical device of claim 1 wherein the display device comprises an LCD.

11. A programmable medical device, comprising:  
a display device;  
an input device for allowing a user to input commands to control the  
5 programmable medical device, the input device comprising:  
a plurality of entry keys disposed in a spatial configuration;  
a routine, responsive to a status of the programmable medical device, for  
selectively enabling only those entry keys which are required by the status for inputting  
commands to the programmable medical device.

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12. The programmable medical device of claim 11 wherein said  
programmable medical device comprises a medical treatment device for administering a  
medical treatment.

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13. The programmable medical device of claim 11 wherein said  
programmable medical device comprises an infusion pump.

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18. The programmable medical device of claim 11 wherein the input device  
comprises a keypad and the routine comprises instructions for physically disabling those  
entry keys which are not required by the current programmable medical device status.

19. The programmable medical device of claim 11 wherein the plurality of  
entry keys are displayed on the display device and the routine causes selective display of  
the entry keys as active or inactive.

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20. The programmable medical device of claim 19 wherein the inactive keys  
are displayed in shadow.

21. A controller for controlling a programmable medical device comprising:  
a display device;  
a routine, responsive to a status of the programmable medical device, for  
generating a display of a plurality of entry keys disposed in a spatial configuration and  
5 for selectively displaying on the display device only those entry keys which are required  
by the status for inputting commands to the programmable medical device; and  
a selector for allowing a user to activate the displayed keys to allow the user to  
input commands to control operation of the programmable medical device.

10 24. The controller of claim 21 wherein the selector comprises a keypad.

26. The controller of claim 21 wherein the programmable medical device  
includes an input device having a plurality of entry keys disposed in a spatial  
configuration and wherein the routine causes display of the entry keys on the controller in  
15 a configuration substantially the same as the entry keys on the medical device.

27. The controller of claim 26 further comprising a memory for storing a  
plurality of different key configurations, each key configuration corresponding to a  
plurality of entry keys of a different programmable medical device.

20 28. The controller of claim 27 further comprising a routine for determining a  
type of the programmable medical device and for determining an appropriate display for  
each operation of the programmable medical device.

25 29. The controller of claim 21 wherein the controller further comprises a  
personal computer.

30. A medical apparatus comprising:

a programmable medical device, the programmable medical device being disposed at a first location and comprising:

an input device for allowing a user to input commands to control the medical device, the input device having a plurality of entry keys disposed in a spatial configuration; and

5 a remote controller for monitoring and controlling the programmable medical device, the remote controller being positionable at a second location remote from the first location but in communication therewith, the remote controller comprising:

a display device;

10 a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of virtual entry keys disposed in a spatial configuration and for selectively displaying on the display device only those virtual entry keys which are required by the status for inputting commands to the programmable medical device; and

15 a selector for allowing a user to activate the displayed virtual entry keys to allow the user to input commands to control operation of the programmable medical device.

31. The apparatus of claim 30 wherein the programmable medical device comprises an infusion pump for administering a liquid medicant to a patient, the infusion pump comprising:

20 a liquid injection device for connection to the patient;  
a conduit connected to the liquid injection device;  
a pumping mechanism for pumping the liquid medicant through the conduit and into the patient via the liquid injection device; and

25 a controller for controlling the pumping mechanism.

32. The apparatus of claim 30, wherein the remote controller further comprises a memory for storing a plurality of different key configurations, each key configuration corresponding to a plurality of entry keys of a different programmable medical device.

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33. An apparatus as defined in claim 30 wherein the remote controller further comprises: a communication device for transmitting command signals to control the operation of the programmable medical device, a monitoring device for monitoring the programmable medical device, a data transmission device for transferring data generated by the programmable medical device and a display device for viewing data generated by the programmable medical device.

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34. The apparatus of claim 33 wherein each of said communication device, monitoring device, data transmission device and display device comprises a routine stored in the memory.

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35. A method for controlling a programmable medical device, the programmable medical device having a display device, an input device for allowing a user to input commands to control the programmable medical device, the input device comprising: a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device; and a selector for allowing a user to activate the displayed keys to allow the user to input commands to control operation of the programmable medical device, comprising the steps of:  
determining the status of the programmable medical treatment device;  
selecting those entry keys which are required by the status for inputting commands to the programmable medical device; and

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displaying only those entry keys which are required by the status for inputting commands to the programmable medical device.

36. A method for controlling a programmable medical device, the  
5 programmable medical device having a display device, an input device for allowing a user to input commands to control the programmable medical device, the input device comprising: a plurality of entry keys disposed in a spatial configuration; and a routine, responsive to a status of the programmable medical device, for selectively enabling only those entry keys which are required by the status for inputting commands to the  
10 programmable medical device, comprising:  
determining the status of the programmable medical device;  
selecting those entry keys which are required by the status for inputting commands to the programmable medical device; and  
enabling only those entry key which are required by the status for inputting commands to the programmable medical device.  
15

37. The programmable medical device of claim 11 wherein the plurality of entry keys are displayed on the display device and the routine causes electronic disabling of those entry keys which are not required by the current programmable medical device  
20 status.